

DRUG DELIVERY SYSTEMS AND METHODS

ABSTRACT OF THE DISCLOSURE

The present invention relates to a drug delivery device for mixing and delivering a drug by injection. The device includes a housing having a first port or opening
5 therein that receives a first container that contains a fluid or powdered drug, for example a lyophilized drug. The housing can also include a second port or opening that receives a second container that contains a fluid to be mixed with the drug to form an injectable fluid. The device includes a manifold having a channel that fluidly connects the first and second containers. A penetrating membrane such as a needle is used to
10 inject the drug into a patient which is in fluid communication with the first container. The needle is movable from a storage position in the housing to an injection position extending through the housing.